

GONODACTYLUS LIGHTBOURNI, A NEW STOMATOPOD CRUSTACEAN FROM BERMUDA

Raymond B. Manning and C. W. Hart, Jr.

Abstract.—*Gonodactylus lightbourni*, a new species collected in moderate depths off Bermuda, is described. It is the eleventh species of the genus to be recognized in the western Atlantic.

Among the unidentified stomatopods in the collection of the Bermuda Biological Station was one lot containing four specimens of a small *Gonodactylus* taken in 64–91 m by the “Northstar” Expeditions under the direction of J. H. R. Lightbourn and Arthur T. Guest. These specimens represent an undescribed species which is named herein.

All of the specimens have been deposited in the National Museum of Natural History, Smithsonian Institution, Washington, under USNM catalog numbers. Measurements are in millimeters; total length is abbreviated to TL.

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Gonodactylus lightbourni, new species

Fig. 1

Material.—Bermuda, south shore, 2 miles off Castle Roads, 64–91 m, 25 September 1976, R/V “Northstar” Expeditions, J. H. R. Lightbourn, Arthur T. Guest, John C. Markham, leg.: 1 female, TL 25 mm (holotype, USNM 181443), 1 male juvenile, TL 10 mm, 2 female juveniles, TL 9.5 and 11 mm (paratypes, USNM 181444).

Description.—Rostral plate (Fig. 1a) longer than broad, rounded laterally, anterior margins sloping anteriorly to slender median spine. Ocular scales small, erect, rounded dorsally. Lateral process of sixth thoracic somite more rounded and broader than that of seventh somite, latter rectangular. Anterior 5 abdominal somites unarmed posterolaterally. Sixth abdominal somite with 6 carinae, submedians and intermediates rather broad, each armed posteriorly. Abdominal width-carapace length index of holotype 760. Telson

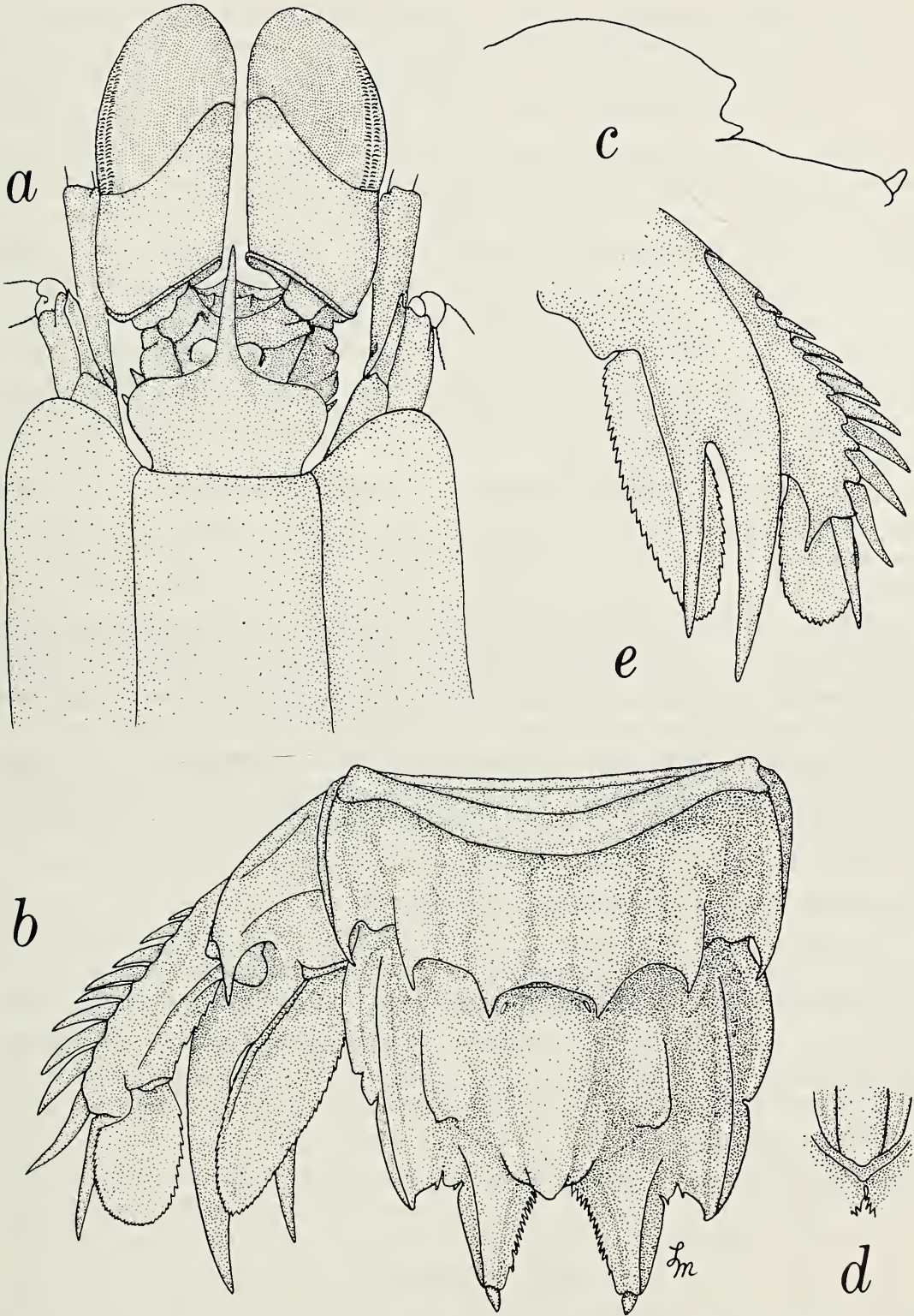


Fig. 1. *Gonodactylus lightbourni*, new species, female holotype, TL 25 mm: a, Anterior part of body; b, Sixth abdominal somite, telson, and uropod; c, Apex of median carina of telson, lateral view; d, Same, dorsal view; e, Uropod, ventral view.

(Fig. 1*b*) slightly longer than broad (flexed ventrally, appearing shorter in Fig. 1), of oerstedii-type, lacking dorsal tubercles on carinae. Dorsal carinae of telson, other than accessory intermediates, well defined. Median carina broad, tapering posteriorly to blunt apex, apical spine of holotype possibly damaged. Accessory median carinae very short, low, fused posteriorly with median carina to form anchor (Fig. 1*d*). Knob appearing as acute lobe in lateral view (Fig. 1*c*), with distinct median tubercle (Fig. 1*d*). Anterior submedian carinae each ending in blunt lobe or tubercle. Submedian teeth broad, inner margins lined with minute denticles, movable apices present. Intermediate teeth broad, apices blunt. Lateral teeth low, poorly developed, damaged on left side. Two anteriorly recessed intermediate denticles present, inner set on rounded lobe. Uropod (Fig. 1*b, e*) slender, outer margin of proximal segment with 10–11 graded, movable spines; endopod slender, rounded mesially and laterally.

Measurements.—Female holotype, TL 25 mm; 3 juveniles 9.5, 10, and 11 mm. Other measurements of holotype: rostral plate length 1.8, width 1.6; carapace length 5.0; fifth abdominal somite width 3.8; telson length 3.8, width 3.5.

Remarks.—*Gonodactylus lightbourni* is the eleventh species of the genus to be recorded from the western Atlantic, and only the third to be collected at Bermuda; *G. bredini* Manning and *G. spinulosus* Schmitt have been recorded from shallow water Bermudan localities (Manning, 1969, 1973). It differs from all of the known American species in the shape of the rostral plate, in which the basal part is broadly rounded laterally rather than produced into an angular lobe. The rostral plate is similar to that found in the Indo-West Pacific *G. espinosus* Borradaile (see Manning, 1967, fig. 8*a*), but the median spine is longer in *G. lightbourni*.

The apparently unique shape of the rostral plate in *G. lightbourni* prompted us to reexamine the shape of the plate and the ocular scales in material of the nine western Atlantic species available to us; these are shown in Fig. 2. The ocular scales of the western Atlantic species are not particularly distinctive; they are relatively small in all of the species examined, unlike those found in the common Indo-West Pacific *G. chiragra* (Fabricius) and its closest relatives.

Gonodactylus lightbourni can be distinguished from the other western Atlantic species with an oerstedii-type telson and which lack dorsal spinules on the telson carinae by the presence of indistinct posterior tubercles on the median and anterior submedian carinae of the telson and by the distinct median tubercle on the knob. In some of these features this new species resembles *G. petilus*, but in that species the rostral plate is shaped differently, being less constricted basally (compare the rostra in Figs. 1*a* and 2*g*), the abdomen and telson are more slender, the median and submedian dorsal carinae of the telson terminate in distinct spines, the accessory median

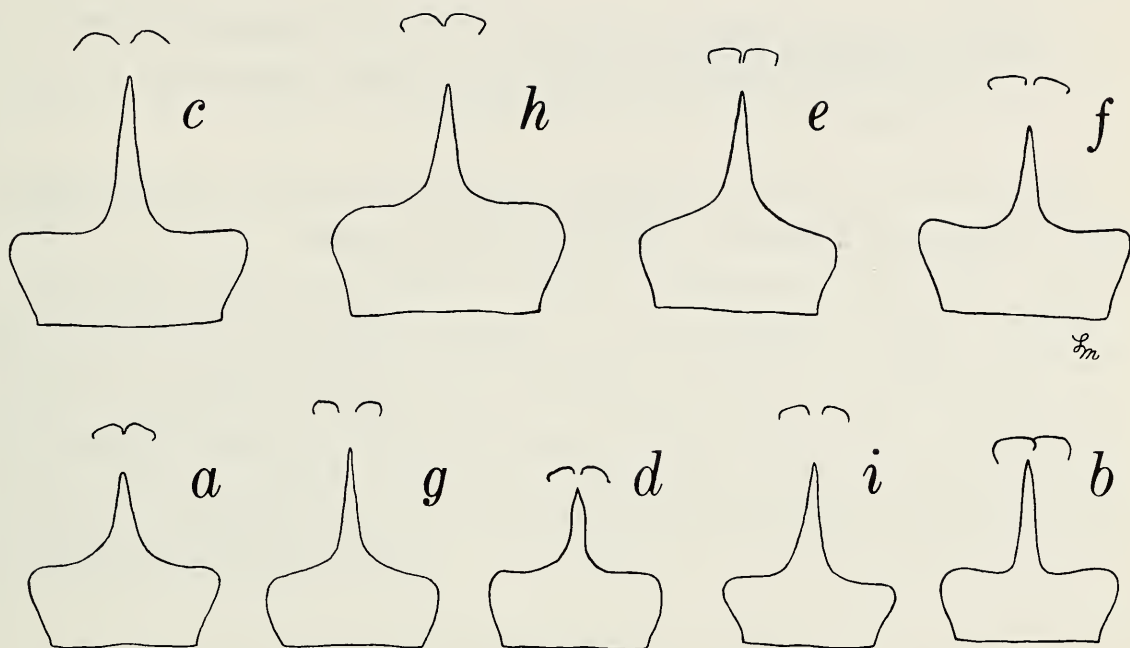


Fig. 2. Rostral plate and ocular scales of *Gonodactylus* spp.: a, *G. austrinus* Manning, 1969, male paratype, TL 50 mm, Fernando de Noronha, USNM 119264; b, *G. curacaoensis* Schmitt, 1924, female lectotype, TL 48 mm, Curaçao, USNM 57527; c, *G. lacunatus* Manning, 1966, female paratype, TL 28 mm, Abrolhos Islands, USNM 113252; d, *G. oerstedii* Hansen, 1895, male, TL 48 mm, Florida, USNM 7524; e, *G. minutus* Manning, 1969, female paratype, TL 27 mm, Brazil, USNM 18490; f, *G. bredini* Manning, 1969, male holotype, TL 59 mm, Grenadines, USNM 119140; g, *G. petilus* Manning, 1970, male holotype, TL 18 mm, Panama, USNM 128327; h, *G. torus* Manning, 1969, male paratype, TL 33 mm, Florida, USNM 119261; i, *G. spinulosus* Schmitt, 1924, female holotype, TL 32 mm, Barbados, USNM 68945.

carinae are longer, the knob lacks a median projection, and the lateral teeth of the telson are sharper.

Like *G. torus* Manning and *G. petilus* Manning, *G. lightbourni* lives in relatively deep water, 64–91 m; this helps to explain why its presence in Bermudan waters has gone undetected until now.

Etymology.—This species is named for Mr. J. H. R. Lightbourn, whose interest in the marine fauna of Bermuda has resulted in the “Northstar” explorations in deep water there. The dredging and trapping operations carried out by Mr. Lightbourn have materially added to the knowledge of the marine fauna of Bermuda.

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Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560.